

AMENDMENTS TO THE CLAIMS:

This listing of claims will replace all prior versions, and listings, of claims in the application:


LISTING OF CLAIMS:

Claims 1-13 (Cancelled).

14. (Currently Amended) A high frequency sputtering device, comprising:

a processing chamber having an axially extending side wall;

a high frequency power supply;




a cathode inside the processing chamber, the cathode being electrically insulated from the processing chamber and connected to the high frequency power supply, the cathode extending only along a given axial extent of the side wall of the processing chamber;

a target mounted on a first side of the cathode; and

a grounded metal ~~plate~~ shield mounted in the processing chamber adjacent to the cathode but only in a location outside of the given axial extent of the cathode, the metal ~~plate~~ shield having an opening in a central portion thereof, wherein an outer circumferential edge of the metal ~~plate~~ shield is electrically grounded to the processing chamber;

the processing chamber, cathode, and the grounded metal shield are arranged such that only a dielectric material is between the cathode and the wall of the processing chamber within the axial extent of the cathode;



the metal ~~plate~~ shield is arranged so as to form a gap having a first portion between the metal ~~plate~~ shield and the cathode and a second portion between the metal ~~plate~~ shield and the target, wherein the gap is sufficiently narrow and sufficiently long so as to substantially prevent plasma from passing through the gap, wherein the gap includes a bend between the first portion and the second portion so that the gap is substantially L-shaped.

15. (Currently Amended) The high frequency sputtering device as claimed in claim 14, wherein the metal ~~plate~~ shield is located in radial alignment with the target.


16. (Currently Amended) The high frequency sputtering device as claimed in claim 14, wherein the metal ~~plate~~ shield is located at a side of the target.

17. (Currently Amended) The high frequency sputtering device as claimed in claim 14, wherein the target and the metal ~~plate~~ shield are made of the same material.

18. (Original) The high frequency sputtering device as claimed in claim 14, wherein a width of the gap is less than or equal to about 3 mm.

19. (Original) The high frequency sputtering device as claimed in claim 14, wherein a depth of the gap is greater than or equal to about 3 mm.

20. (Original) The high frequency sputtering device as claimed in claim 18, wherein a depth of the gap is greater than or equal to about 3 mm.

 21. (Currently Amended) The high frequency sputtering device as claimed in claim 14, further comprising a dielectric ring between an outer circumferential surface of the cathode and an inner circumferential surface of the processing chamber, wherein:

the second portion of the gap is defined by a space extending axially between the metal ~~plate~~ shield and the target, the second portion having an axially extending length, and

the first portion of the gap is defined by a space extending radially between the dielectric ring and a radial point defined by an inner circumferential surface of the metal ~~plate~~ shield, the first portion having a radially extending length,

wherein the radially extending length is 3 mm or greater.

22. (Currently Amended) The high frequency sputtering device as claimed in claim 14, wherein the first portion of the gap is defined by a space extending radially between a radial point defined by an outer edge of the cathode and another radial point defined by an inner circumferential surface of the metal ~~plate~~ shield, the first portion having a radially extending length of 3 mm or greater.

23. (Currently Amended) The high frequency sputtering device as claimed in claim 14, further comprising a dielectric ring between an outer circumferential surface of the cathode and an inner circumferential surface of the processing chamber, wherein:

the second portion of the gap is defined by a space extending axially between the metal plate shield and the target, the second portion having an axially extending length, and

the first portion of the gap is defined by a space extending radially between the dielectric ring and a radial point defined by an inner circumferential surface of the metal plate shield, the first portion having a radially extending length,

wherein the axially extending length and the radially extending length together is greater than 3 mm.

24. (Previously Presented) The high frequency sputtering device as claimed in claim 14, wherein a width of the gap is less than or equal to 3 mm.

25. (Previously Presented) The high frequency sputtering device as claimed in claim 14, wherein a depth of the gap is greater than or equal to 3 mm.

26. (Previously Presented) The high frequency sputtering device as claimed in claim 18, wherein a depth of the gap is greater than or equal to 3 mm.

27. (Currently Amended) The high frequency sputtering device as claimed in claim 14, wherein:

the second portion of the gap is defined by a space extending axially between the metal ~~plate~~ shield and the target, the second portion having an axially extending length, and

the first portion of the gap is defined by a space extending radially between a first radial point defined by an inner circumferential surface of the metal ~~plate~~ shield and a second radial point defined by an outer circumferential surface of the cathode, the first portion having a radially extending length,

wherein the radially extending length is 3 mm or greater.


28. (Currently Amended) The high frequency sputtering device as claimed in claim 14, wherein:

the second portion of the gap is defined by a space extending axially between the metal ~~plate~~ shield and the target, the second portion having an axially extending length, and

the first portion of the gap is defined by a space extending radially between a first radial point defined by an inner circumferential surface of the metal ~~plate~~ shield and a second radial point defined by an outer circumferential surface of the cathode, the first portion having a radially extending length,

wherein the axially extending length and the radially extending length together is greater than 3 mm.

29. (Currently Amended) The high frequency sputter device of claim 14, wherein the first portion is defined between substantially horizontal surfaces of the metal ~~plate~~ shield and the cathode and the second portion is defined between substantially vertical surfaces of the metal ~~plate~~ shield and the target.

 30. (Currently Amended) The high frequency sputter device of claim 29, wherein an opening of the gap closest to the target is in the second ~~portion~~ portion.

31. (New) A high frequency sputtering device, comprising:
a processing chamber having an axially extending side wall;
a high frequency power supply;
a cathode inside the processing chamber, the cathode being electrically insulated from the processing chamber and connected to the high frequency power supply, the cathode extending only along a given axial extent of the side wall of the processing chamber;

a target mounted on a first side of the cathode; and

a grounded metal shield mounted in the processing chamber adjacent to the cathode but only in a location outside of the given axial extent of the cathode, the metal shield having an opening in a central portion thereof, wherein the metal shield is electrically grounded to the processing chamber;

the processing chamber, cathode, and the grounded metal shield are arranged such that sufficient dielectric space is between the cathode and any grounded portion of the apparatus in order to substantially prevent the generation of stray capacitance between the cathode and such grounded portion;

the metal shield is arranged so as to form a gap having a first portion between the metal shield and the cathode and a second portion between the metal shield and the target, wherein the gap is sufficiently narrow and sufficiently long so as to substantially prevent plasma from passing through the gap, wherein the gap includes a bend between the first portion and the second portion so that the gap is substantially L-shaped.
